

of the wireless communication portion **132** (in the second device **130**) need to be operated in an appropriate operational state. In this regard, a suitable combination of the following operational states may be applied:

**[0045]** a discoverable state of a wireless communication apparatus is an operational state in which the wireless communication apparatus is discoverable by other wireless communication apparatuses;

**[0046]** a discovering state of a wireless communication apparatus is an operational state in which the wireless communication apparatus is attempting to discover other wireless communication apparatuses;

**[0047]** a connectable state of a wireless communication apparatus is an operational state in which the wireless communication apparatus connectable by other wireless communication apparatuses;

**[0048]** a non-connectable state of a wireless communication apparatus is an operational state in which the wireless communication apparatus is not connectable by other wireless communication apparatuses, while at the same time it is typically, but not necessarily, discoverable by other wireless communication apparatuses;

**[0049]** a connecting state of a wireless communication apparatus is an operational state in which the wireless communication apparatus is attempting to create a connection with another wireless communication apparatus;

**[0050]** In general, a wireless communication apparatus of the wireless communication portion **112**, **132** may be operated in a single one of the operational states described above or it may be simultaneously operated in two or more of the operational states described above. Operation in each of the above-defined states may be implemented in one of a number of ways. Illustrative examples in the framework of the BLE protocol are provided later in this text.

**[0051]** In the following, this text may simply refer to a device **110**, **130** operating (or being operated under control of the respective control function or control means) in a certain operational state (e.g. in one of the states described above) when referring to an operational state of a wireless communication apparatus of the respective wireless communication portion **112**, **132**. Along similar lines, this text may refer to a device **110**, **130** carrying out a certain operation (e.g. receiving and/or transmitting certain message(s), packet(s) or event(s)) when describing the act of a wireless communication apparatus of the respective wireless communication portion **112**, **132** carrying out said certain operation under control of the respective control function or control means. This approach is believed to improve editorial clarity and readability of the text, while the technical meaning of these expressions remains clear.

**[0052]** A pair of devices, e.g. the first device **110** and the second device **130**, that are within an operating range from each other with one device operating in the discoverable state and the other device operating in the discovering state may carry out a discovery procedure that involves detecting presence of the other device as well as requesting and acquiring information related to the connection creation and establishment between the pair of devices, related to identity of at least one of the devices and/or information related to services available in at least one of the devices. Along similar lines, a pair of devices that are within an operating range from each other with one device operating in the connectable state and the other device operating in the connecting state may carry

out a connection creation procedure that involves detecting presence of the other device as well as requesting and acquiring (further) information related to connection creation or establishment between the pair of devices and/or identities of the devices. The connection creation may further be followed by creation of a wireless link and transfer of data between the pair of devices.

**[0053]** In the following, an overview of the communication and information transfer between the devices **110**, **130** and some aspects of operation of each of the first device **110** and the second device **130** is described at a high level.

**[0054]** As a starting point for device discovery and potential data transfer between the first device **110** and the second device **130**, the first device **110** is operating in the discoverable state, whereas the second device **130** is operating in the discovering state. Depending on sufficiency of available operating power in the first device **110**, the first device **110** is at the same time also operated in one of the connectable state and non-connectable state. In particular, if sufficient operating power is available for the first device **110** the first device **110** is operated in the connectable state, whereas in case sufficient operating power is not available the first device **110** is operated in the non-connectable state.

**[0055]** As an example, an indication of sufficient operating power may include a requirement that the first device **110** is in receipt of operating power from an external power supply, such as mains electricity. In contrast, an indication of less than sufficient operating power may include that the first device **110** is not in receipt of operating power from an external power supply. As another example, an indication of sufficient operating power may comprise a requirement that a power reserve in the power source **120** exceeds a predefined threshold. In contrast, an indication of less than sufficient operating power may involve the reserve of operating power available in the power source **120** failing to exceed the predefined threshold.

**[0056]** As a further example, the criteria for sufficiency of operating power may be a combination of the above examples: a first indication of sufficient operating power may include that the first device **110** is in receipt of operating power from an external power supply and that the power reserve in the power source **120** exceeds a first predefined threshold, a second indication of sufficient operating power may include that the first device **110** is not in receipt of operating power from an external power supply and that the power reserve in the power source **120** exceeds a second predefined threshold that is higher than the first predefined threshold, whereas in other cases the operating power may be considered to be insufficient.

**[0057]** While creating and establishing a wireless link and transmission (or exchange) of information over the established wireless link typically results in increased power consumption in comparison to operation in a non-connected state, the criteria concerning availability of sufficient operating power can be applied to ensure that there is sufficient operating power to carry out the information transfer (or exchange) and/or to ensure a sufficient reserve of remaining operating power after the information transfer (or exchange).

**[0058]** The first device **110** may indicate its current operational state by using advertising messages transmitted (e.g. broadcast) therefrom over a wireless channels. The advertising messages comprise an indication of the current operational state of the first device **110** (or that of the wireless communication apparatus of the wireless communication